

VSF Activity Group - Authorization Form

Title: Review of CODEC options for AV over IP protocols in Pro-AV applications

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Overall Scope: Establish operating points for the documented use cases of the IPMX system, and criteria to be measured for candidate codecs against each use case, and organize a vendor self-testing program, such that there is sufficient data to allow a group external to the VSF (e.g. the AIMS IPMX steering committee) to make a decision.

Objectives: This activity group will

1. Establish IPMX system operating points for evaluation purposes, based on the Use Cases (see JT-NM ref)
2. Determine criteria to be measured at the operating points
3. Develop targets or ranges for each criterion, for each use case
4. Develop and publish a test plan for objective testing of the criteria at the operating points
5. Develop a list of suitable candidate codecs and encourage vendors to self-test against the published plan and criteria.
6. Document the results to support a recommendation of codec(s) for each use case.
7. Publish the results

Use cases Reference: <https://github.com/AMWA-TV/pro-av-user-requirements>

This activity group shall not:

- Select a “winning” CODEC
- Test CODECS against the test plan
- Discuss specifics of the cost of licensing, products, etc. The group may note licensing terms (e.g. a CODEC is freely available, available on RAND terms, etc.).
- Develop any new technology

Tasks: Additional tasks TBD as additional meetings are held

Note: The scope of this Activity Group may not be expanded without approval from the VSF Board of Directors.

Meeting Schedule: Weekly

Draft Output Due: Sept 2023

Completion Date: Dec 2023

Form of Output: Report to VSF
 Recommendation to Standards Organization(s)
 Article or Conference Presentation
 Other (please state): Recommendation to the AIMS IPMX Steering Committee

Liaisons: SMPTE ATIS ATSC Other (ITU, VQEG)

References: TBD

Interested Parties: Macnica, Matrox, Intel, IntoPix Might want company like VideoClarity or BridgeTech or other PSNR and/or DMOS-type measuring expertise to help develop test plan criteria.

Resources required: Email reflector and meeting services

Date written/revised: 5/3/23

Board of Directors approval date: ?

Activity Group Evaluation Criteria

1. **Potential for use** – Assess the reason for the effort. State reasons this activity supports the objectives of the VSF.

- Variety of available CODECs for AV over IP approaches in Pro-AV market but no known report comparing the relative merits and applicability to defined use cases [until the report to be produced by this AG].
- Important to have data to support the provisioning of IPMX TR in VSF to support a variety of different CODECs and set the boundaries/scope of what to be supported, e.g. if VBR important. [the report from this AG will inform this activity whilst importantly not advocating for just one CODEC]

2. **Other documents** – Before a proposal is approved, the proponents shall state that similar activity is not under consideration in other Activity Groups. Is there any completed work which has already addressed the issue (Prior Art)?

- Activity group leads and members not aware of any similar report for this purpose.
- Intel was involved in equivalent effort in the 8K Association for encode/decode landscape for 8K live production from which they will take learnings on how to run this activity group, see: <https://8kassociation.com/industry-info/8k-news/report-highlights-viability-of-8k-live-production-and-delivery/>

3. **Public interest** – There shall be no evidence that the work of the Activity Group is contrary to the public interest.

- Ground rules of activity group will be to make comparisons based on tangible quantifiable merit of different CODECs with objective to put aside individual company agendas.
- The activity group leads believe the comparison is in general “technical” public interest and the result of the effort will inform and help scale of AV over IP in Pro-AV even beyond the work of approaches defined by the VSF.

4. **Technical soundness** – There shall be evidence of technical adequacy and feasibility.

- Output of the activity group will be a technical report.
- For comparisons we will rely on industry standard approaches and measures where applicable (e.g. VMAF), the methodology of comparison will be a distinct workstream of the group.
- For credibility/soundness we will compose the Activity Group with a broad representation of VSF members. With agreement of relevant stakeholders the activity group leads will seek for as broad peer review as rules of VSF allow. E.g. with those outside of VSF who have active technology in the area of AV over IP.

5. **Resource review** – The proponent(s) shall provide an assessment of the required resources to complete the proposed Activity Group effort. Determine if anticipated results warrant resource expenditure. The proponent(s) shall also provide a timeline with proposed deliverables and dates for output from the group.

Aside from VSF member time dedicated, resources are minimal. Telephone conference bridges, email group lists, etc.

- Host meeting from Intel Teams account (so in Ben’s control for scheduling) unless preference for other approach.
- Use VSF reflector and email group list.
- No anticipated expenditure but will inform board if one arises (e.g. costs for conference participation for publication of any paper).
- Timeline of Sept’23 (draft report) and Dec’23 (final report) covered in application form. Interim deliverables to be early discussion point in activity group.

6. **Concurrence and support** – There is significant support from customers and/or vendors, and carriers to undertake the activity.

- Matrox, Macnica and Intel offer strong support to drive forward the activity group and recruit key stakeholders.

Note - Testing may be done, subject to concurrence of interested parties. Any proposal involving testing shall describe in writing how such testing is to be conducted and how results are to be quantified.

VSF Activity Group Functions between Meetings

1. Conference calls are anticipated at least once a month to move the topic forward between Face-to-Face meetings
 - a. If no conference calls occur between meetings, the topic area will be deactivated by the VSF board upon being notified of this fact.
2. Activity Group conference calls will be monitored by at least one VSF board member to assess AG status
3. The Technical Moderator will attend as many of the conference calls as feasible
 - a. The Technical Moderator is not responsible for initiating these calls
 - b. The Technical Moderator may interact with the AG chair between calls as needed
4. Conference call times may be posted on the VSF website or in meeting minutes.
 - a. Conference calls should be scheduled at least one week in advance
 - b. Formal agendas are not required but meeting minutes would be useful
5. VSF will reimburse individuals or organizations for the costs incurred in supplying conference call bridges, if appropriate documentation of charges are supplied to the VSF Operations Manager – Bob Ruhl (bob.ruhl1@verizon.net)
 - a. It is appreciated if conference bridges are donated. In return, donors will be publicly recognized for having done so at VSF meetings and at the VidTrans show.

2/25/2010

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